Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Form PCT/IPEA/416
03/016WO		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/CH2004/000222	13.04.2004	15.04.2003
International Patent Classification (IPC) or national classification and IPC		
Applicant		
ABB RESEARCH LTD et alia		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 10 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☐ *(sent to the applicant and to the International Bureau)* a total of _____ sheets, as follows:
      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s))
      _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:
   - ☒ Box No. I Basis of the report
   - ☐ Box No. II Priority
   - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - ☐ Box No. IV Lack of unity of invention
   - ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - ☐ Box No. VI Certain documents cited
   - ☐ Box No. VII Certain defects in the international application
   - ☒ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/CH2004/000222

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

☐ international search (Rule 12.3 and 23.1(b))

☐ publication of the international application (Rule 12.4)

☐ international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ the international application as originally filed/furnished

☒ the description:

pages 1-8 as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☒ the claims:

nos. 1-10 as originally filed/furnished

nos.* _____ as amended (together with any statement) under Article 19

nos.* _____ received by this Authority on _____

nos.* _____ received by this Authority on _____

☒ the drawings:

sheets 1/2-2/2 as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/CH2004/000222

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	8, 10	YES
	Claims	1-7, 9	NO
Inventive step (IS)	Claims		YES
	Claims	8, 10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

This report makes reference to the following documents:

D1: US-A-3 838 598 (TOMPKINS E), 1 October 1974 (1974-10-01)

D2: GB-A-1 469 648 (TOKICO LTD), 6 April 1977 (1977-04-06)

D3: US-A-6 145 544 (DE LAHARPE VINCENT ET AL), 14 November 2000 (2000-11-14)

D4: US-A-5 341 848 (LAWS ELIZABETH M), 30 August 1994 (1994-08-30)

1. The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-10, insofar as it is comprehensible (see Box VIII, in particular the objection on the grounds of lack of clarity in Box VIII, point 2), is not novel (PCT Article 33(2)) or does not involve an inventive step (PCT Article 33(3)).

2. **Independent claim 1**

2.1 Document **D1** discloses (see figures 10-16, 23, and the corresponding text passages) a

differential pressure means (101) for a gas meter arrangement (see figure 10) which comprises a gas meter (106) in a bypass (see figure 10) to a gas pipe (100) for measuring a gas draft through the gas pipe, the differential pressure means being designed for being mounted in the gas pipe (see figure 10) and having a plurality of flow channels (102) with a typical diameter and in different radial positions on the differential pressure means (see figures 11-16); the flow channels which are closer to a radial position close to the centre on the differential pressure means have a larger diameter (cf. column 8, lines 23-25; and figures 13 and 15) and those flow channels which are closer to a radial position closer to the circumference on the differential pressure means have a **smaller** diameter (cf. column 8, lines 23-25; and figures 13 and 15).

2.2 Document **D2** discloses (see figures 2A, 6A and corresponding text passages) a differential pressure means (20, 60) suitable for a gas meter arrangement and comprising a gas meter in a bypass to a gas pipe (10) for measuring a gas draft through the gas pipe (cf. page 1, lines 31-32), the differential pressure means being designed for being mounted in the gas pipe and comprising a plurality of flow channels (22-25, 62-65) with a typical diameter and in different radial positions on the differential pressure means (see figures 2A, 6A). The flow channels which are closer to a radial position close to the centre on the

differential pressure means have a larger diameter (see figures 2A, 6A) and the flow channels which are closer to a radial position close to the circumference on the differential pressure means have a **smaller** diameter (see figures 2A, 6A).

2.3 Document **D3** discloses (see figures 2, 3, 6 and the corresponding text passages) a differential pressure means (3) for a gas meter arrangement (see figure 6) comprising a gas meter in a bypass (6, 7) to a gas pipe (10) for measuring a gas draft through the gas pipe (cf. column 2, lines 13-21), the differential pressure means being designed for being mounted in the gas pipe (see figure 6) and comprising a plurality of flow channels (32, 33) with a typical diameter and in different radial positions on the differential pressure means (see figure 6). The flow channels (32) closer to a radial position close to the centre on the differential pressure means have a larger diameter [than the flow channels (33), for example] (see figure 2) and the flow channels (33) closer to a radial position close to the circumference on the differential pressure means have a **smaller** diameter [than the flow channels (32), for example] (see figure 2).

2.4 The differential pressure means described in document **D4** also appears to be suitable for a gas meter arrangement comprising a gas meter in a bypass to a gas pipe for measuring a gas draft through the gas pipe; **D4** also discloses all the

features of claim 1: see figures 3-5 and column 4, lines 5-8.

2.5 Consequently, **D1-D4** disclose all the features of claim 1 and the subject matter of claim 1 is not novel.

3. **Dependent claims 2-5**

Dependent claims 2-5 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT novelty requirements because all the additional features of claims 2-5 are described in at least one of the documents **D1-D4**:

- claim 2:
  see **D2**, figures 2A, 6A
  see **D4**, figures 3-5 and column 4, lines 5-8
- claim 3:
  see **D2**, figure 6B
  see **D4**, figure 5
- claim 4:
  see **D1**, figures 10 and 25
  see **D2**, figure 6B
  see **D3**, figure 6
  see **D4**, figure 4
- claim 5:
  see **D1**, figures 11-16
  see **D2**, figures 2A, 6A
  see **D3**, figure 6
  see **D4**, figure 3

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

4. **Independent claim 6**

The arguments put forth in the above paragraph 2 against claim 1 on the grounds of lack of novelty (documents **D1-D3**) also apply to claim 6. The subject matter of claim 6 is therefore not novel and does not meet the requirement of PCT Article 33(2).

5. **Dependent claims 7-10**

5.1 Dependent claims 7-10 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT novelty or inventive step requirements, for the following reasons:

5.2 The additional features of claims 7 and 9 are found in at least one of the documents **D1-D3**:

- claim 7:
  see **D1**, figure 25
  see **D3**, figure 6
- claim 9:
  see **D1**, figures 10 and 25
  see **D2**, figures 2A, 6A
  see **D3**, figure 6

The subject matter of claims 7 and 9 is therefore not novel.

5.3 Dependent claims 8 and 10 relate only to minor structural modifications which lie within the scope of what a person skilled in the art routinely does, on the basis of familiar

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

considerations, especially since the advantages achieved thereby are easily foreseeable. Consequently, the subject matter of claims 8 and 10 also appears to lack an inventive step.

Box No. VIII **Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

1. The independent claims lack the clarity required by PCT Article 6 for the following reasons:

2. The embodiments described on page 2, lines 27-30, and pages 4-9, do not fall under the present claims.

   Claim 1 defines the following feature: "the flow channels which are closer to a radial position close to the circumference on the differential pressure means have a **greater** diameter"; however, a "smaller" diameter would appear to be the correct wording.

   This contradiction between the claims and the description raises doubt as to the subject matter for which protection is sought and for this reason the claims are unclear (PCT Article 6).

3. It appears from page 2, lines 31-35, and page 4, lines 28-32, of the description, that the following feature is necessary for the definition of the invention: "the bypass branches away from the side wall of the gas pipe". If the inlets and outlets were located in the tubular cross-section of the main gas pipe, the arrangement of the flow channels defined in claim 1 would not lead to an improvement of the measurement range. Since independent claim 1 does not contain this feature, it does not meet the requirement of PCT Article 6.

Box No. VIII **Certain observations on the international application**

4. The expressions used in claim 1, "have a greater diameter" and "have a smaller diameter" are unclear because the reader would not know in relation to what diameter the comparison is meant ("have a smaller/larger diameter than...").

5. Similar objections also apply to claim 6.